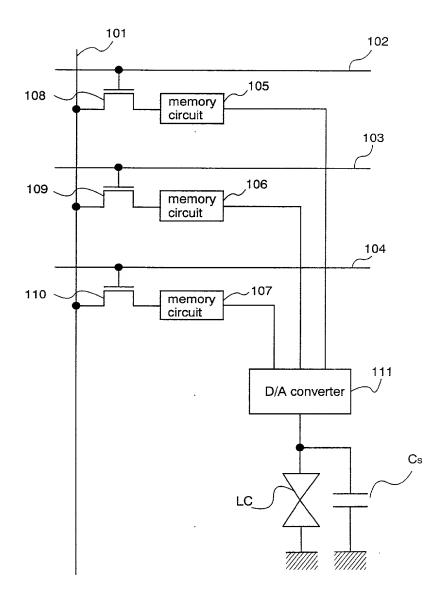
Fig. 1



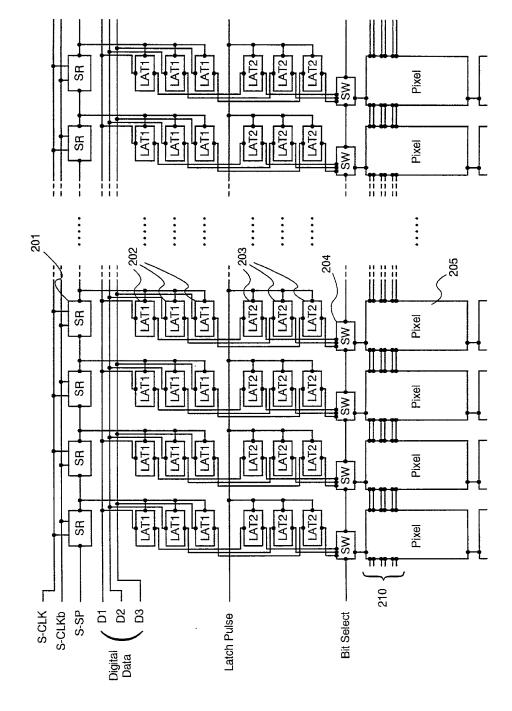
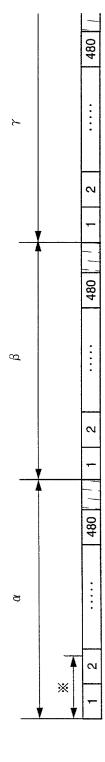


Fig. 2

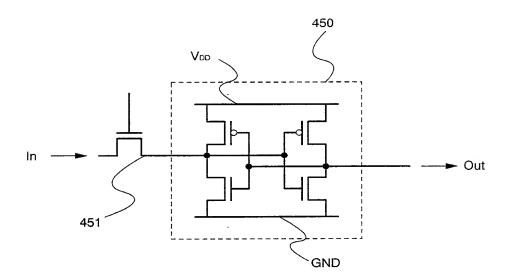
Fig. 3A



writing period to memory latch data transferring period 640 dot data sampling period Fig. 3B

dot data sampling period of next column

Fig. 4



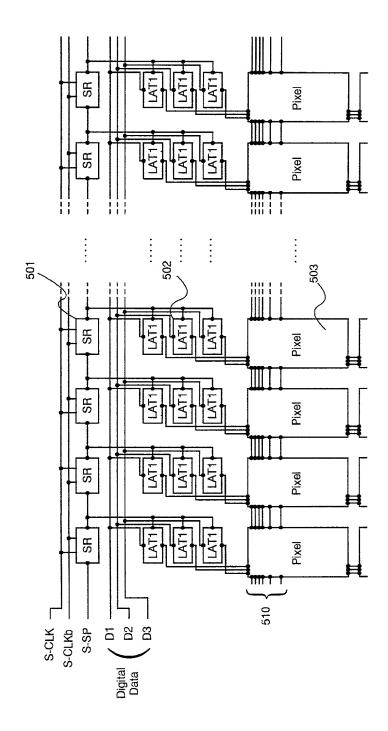


Fig. 5

Fig. 6

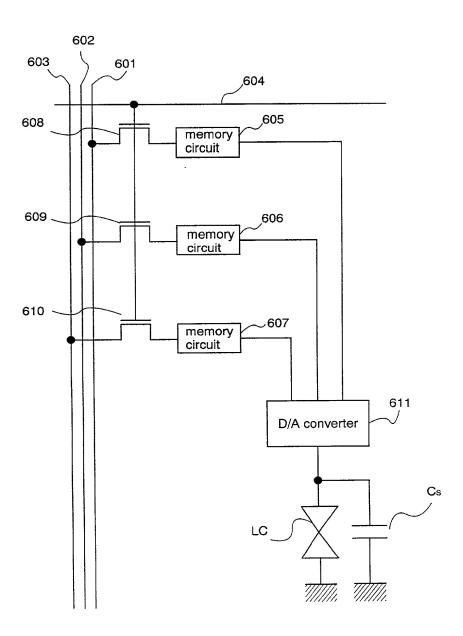


Fig. 7A

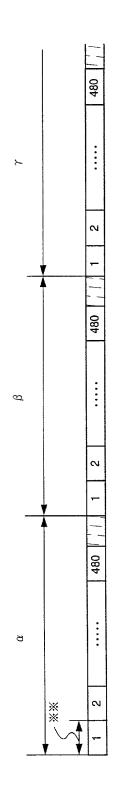


Fig. 7B

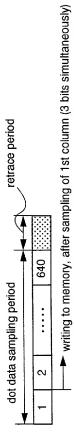


Fig. 8

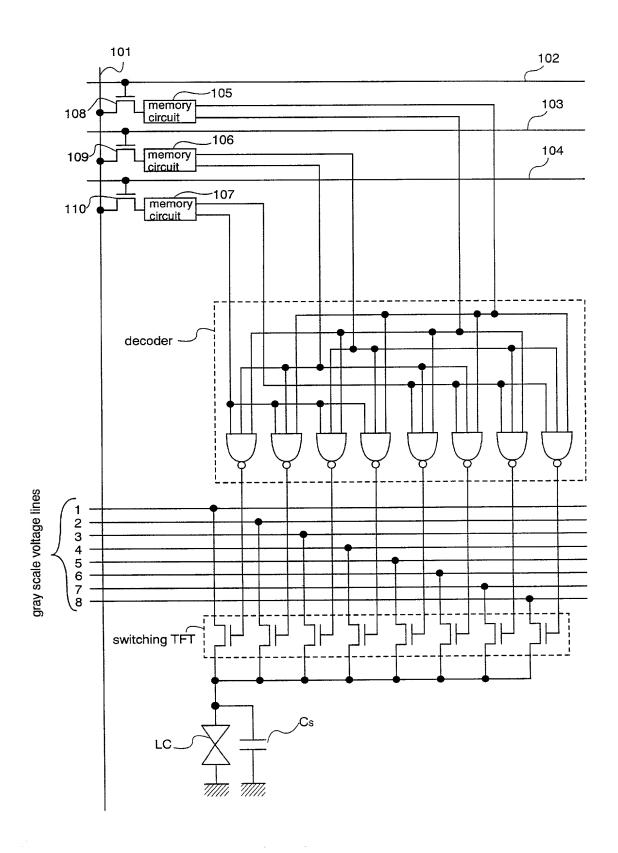
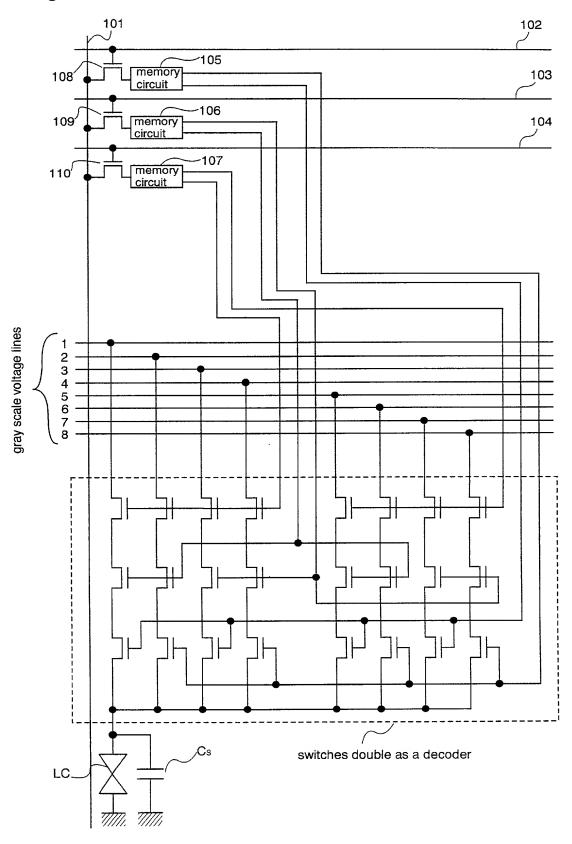
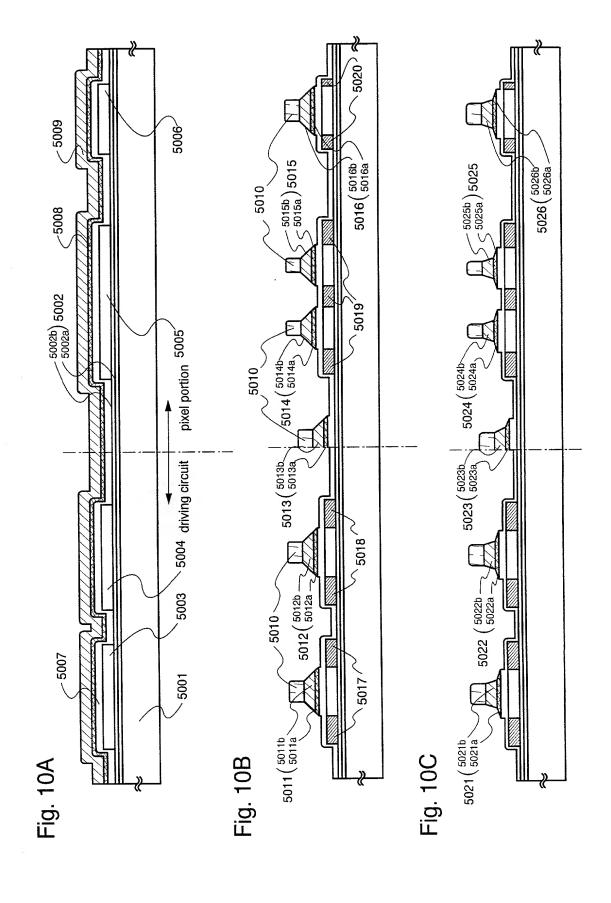
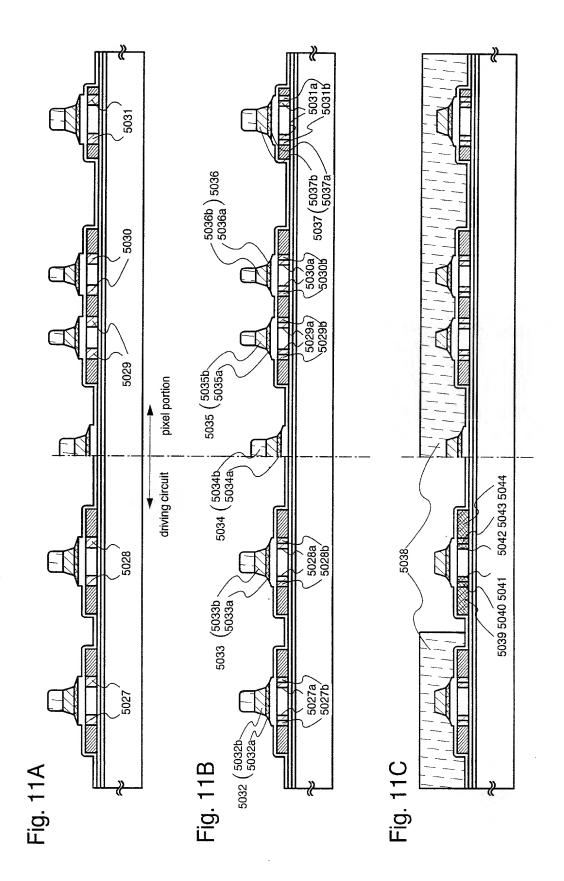
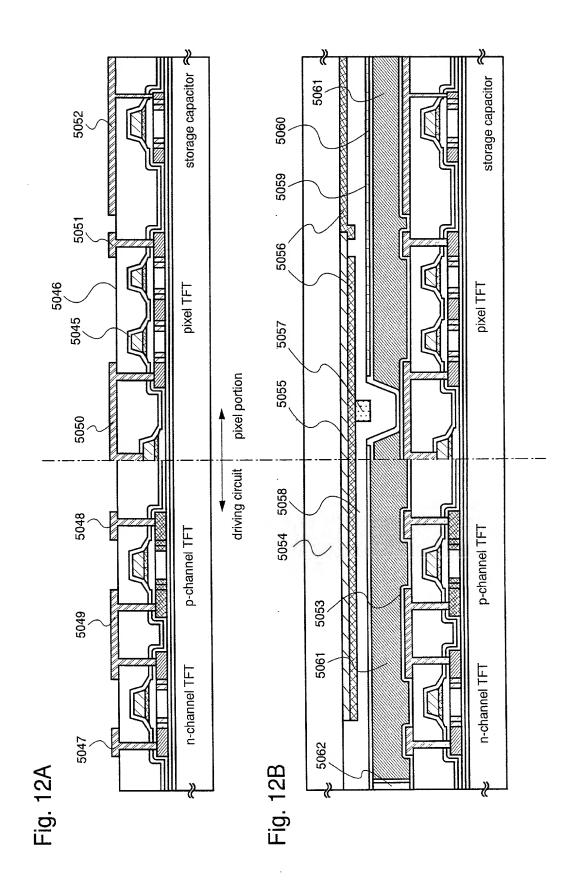


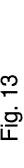
Fig. 9

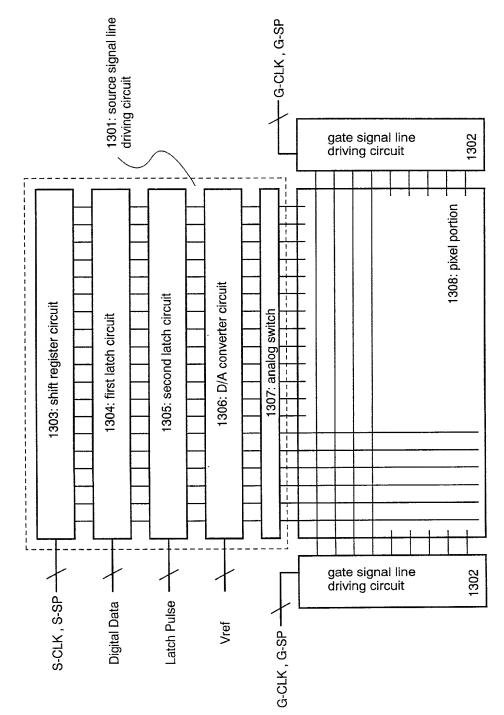






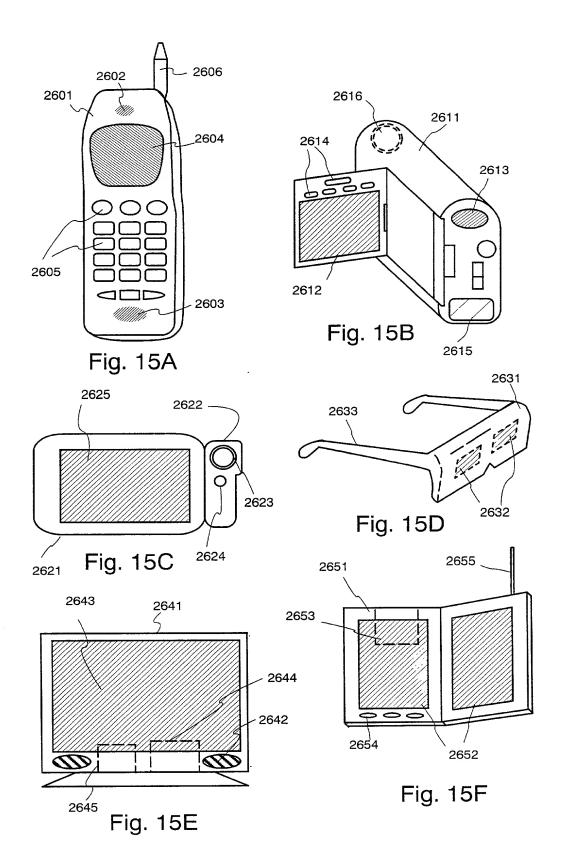






 SR $_{
m SR}$ SR S-CLK S-CLKb S-SP Digital Data

SR S1024 SR S1023 1403 1404 1401 1402 N N LATZ LAT2 MIT S0004 $_{\mathrm{SR}}$ D/A S0003 D/A LAT2 LAT2 S0002 LAT2 LAT2 LAT2 S0001 Vref D2 D3 Latch Pulse



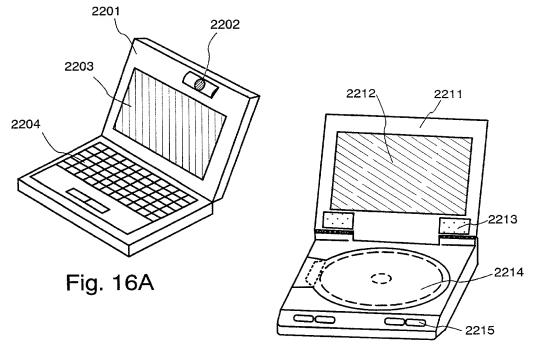


Fig. 16B

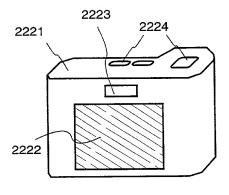


Fig. 16C

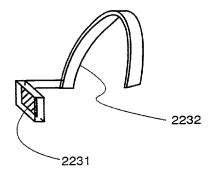


Fig. 16D

Pixel 1111 1 1 1702 1701 Pixel Pixel Pixel Pixel S-CLK T S-SP Fig. 17 Latch Pulse Digital Data

Pixel

Fig. 18A

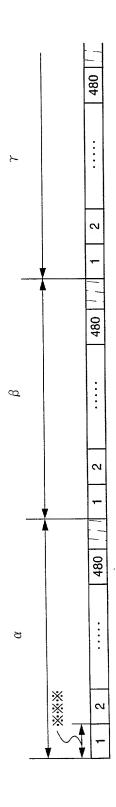
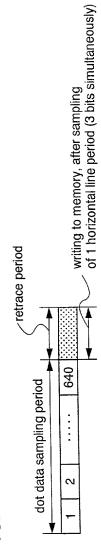


Fig. 18B



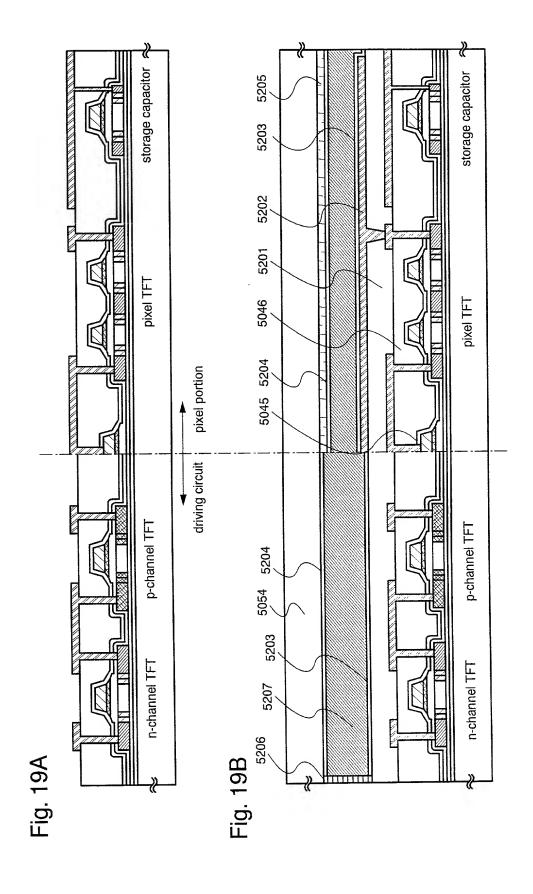


Fig. 20

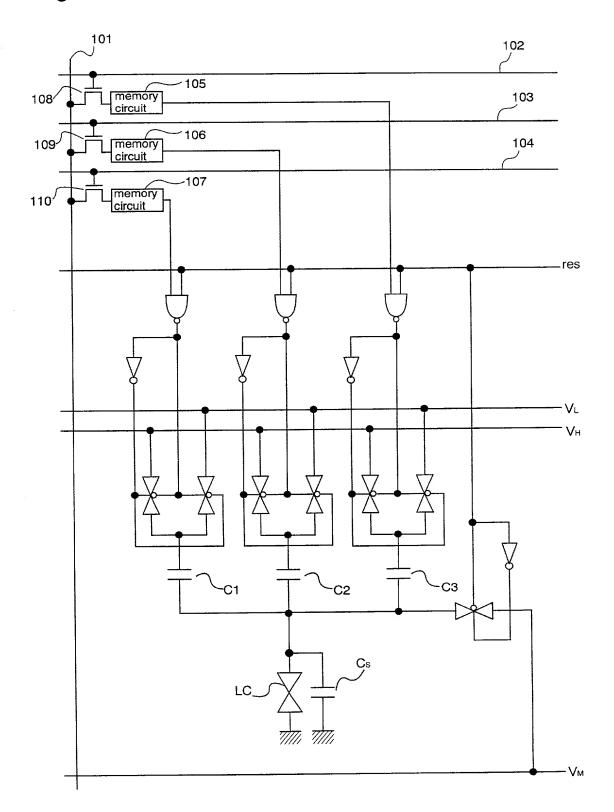


Fig. 21

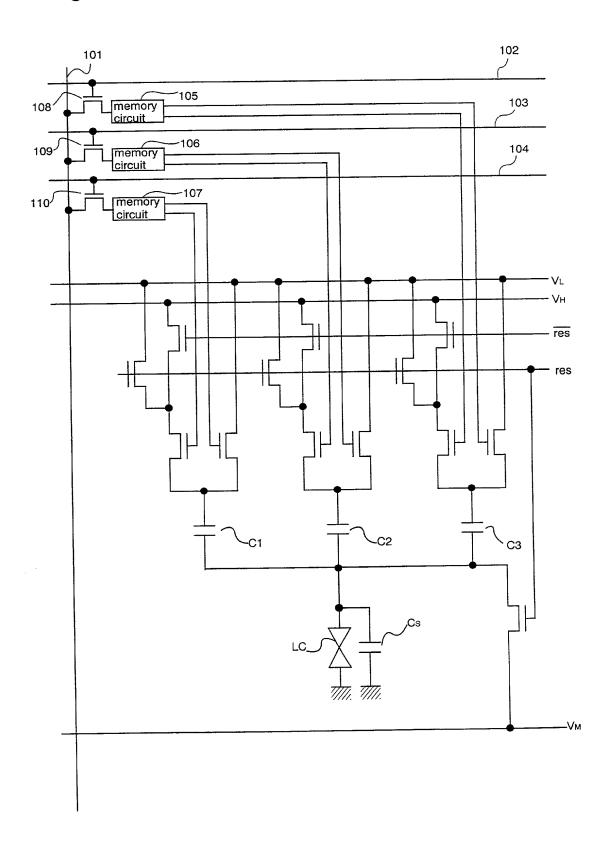


Fig. 22

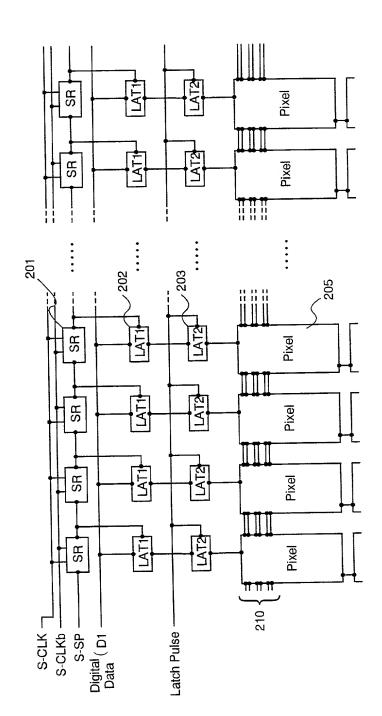
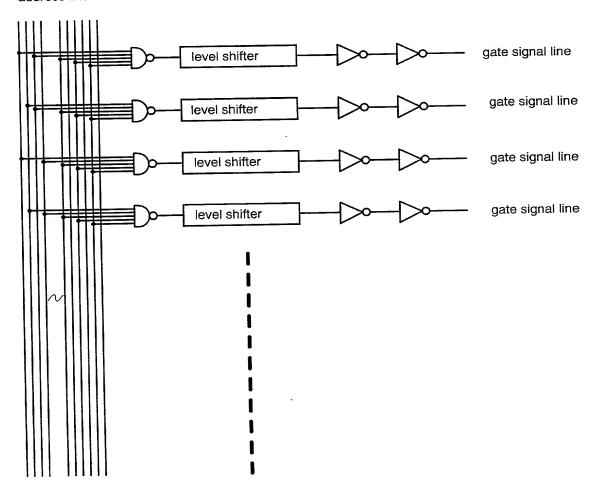
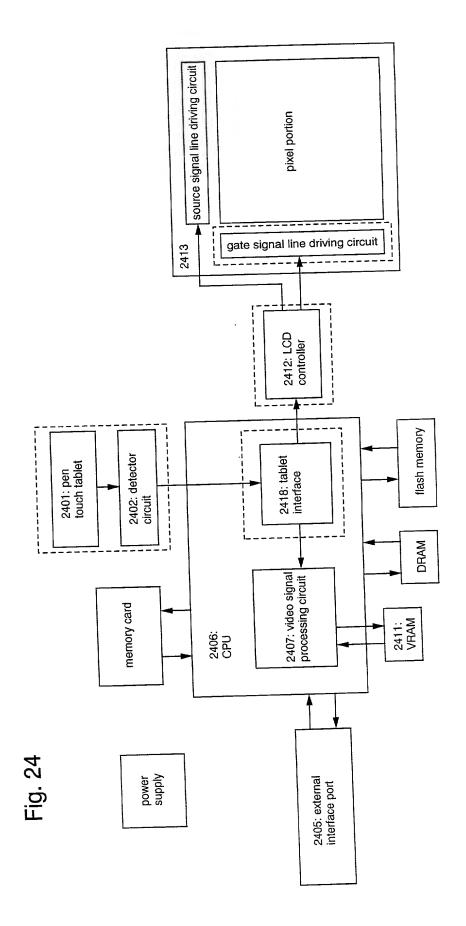


Fig. 23



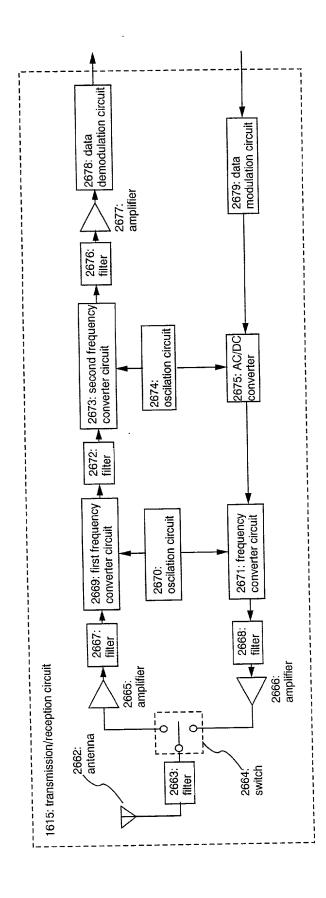


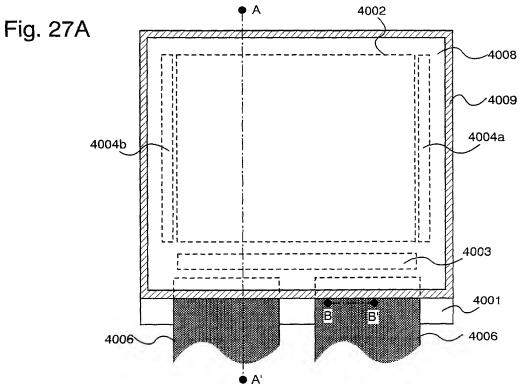


source signal line driving circuit gate signal line driving circuit 2513 2512: LCD controller falsh memory 2518: key board interface 2501: key board DRAM 2507; video signal processing circuit memory card 2511: VRAM 2506: CPU 2515; transmission/ reception circuit audio processing circuit external interface port power supply microphone speaker

pixel portion







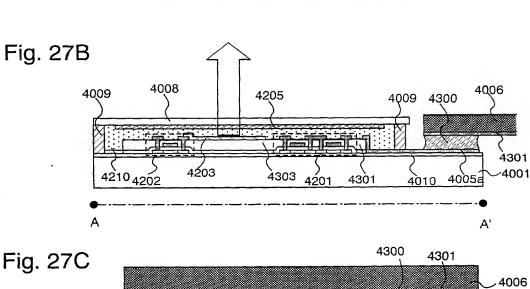


Fig. 27C

4300
4301

4006

4203a 4300a 4005a

4001

B

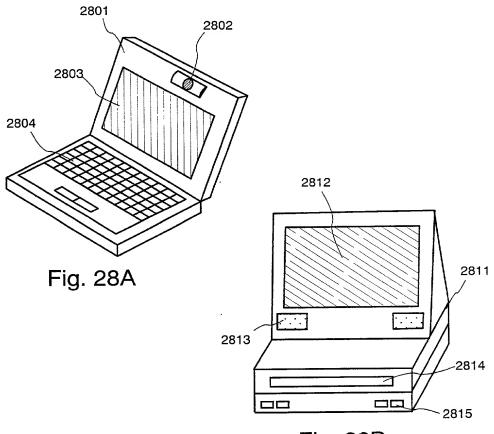


Fig. 28B

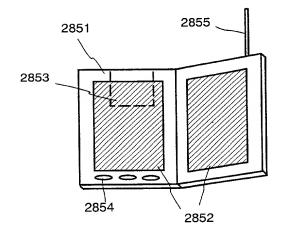


Fig. 28C

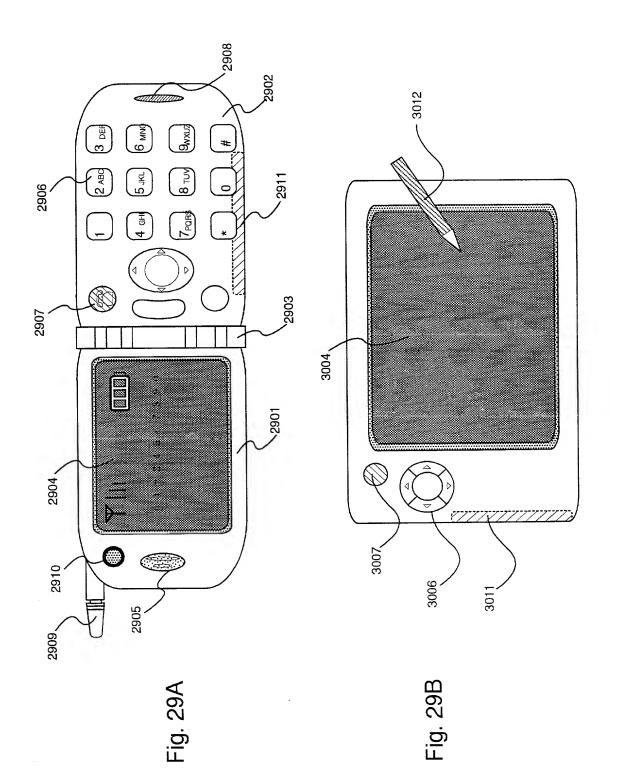


Fig. 30

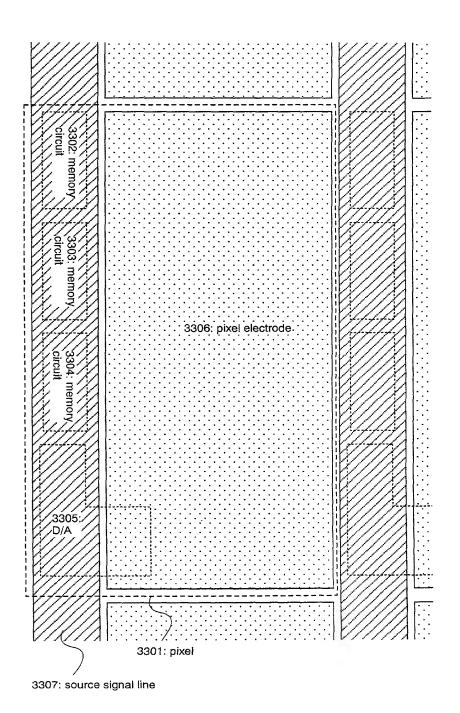


Fig. 31

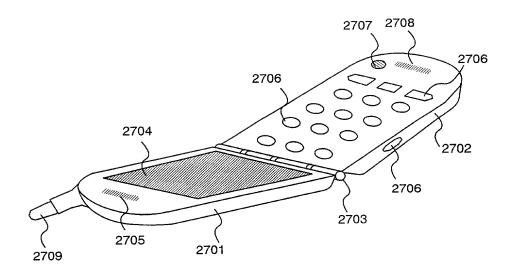


Fig. 32

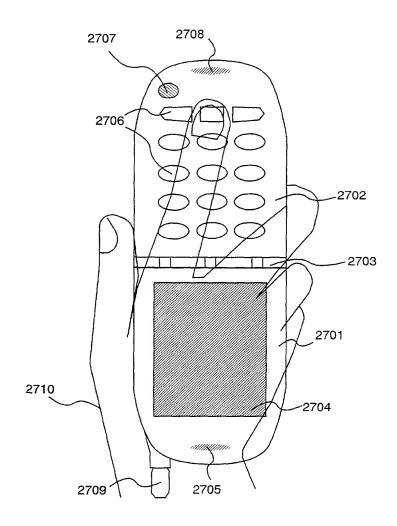
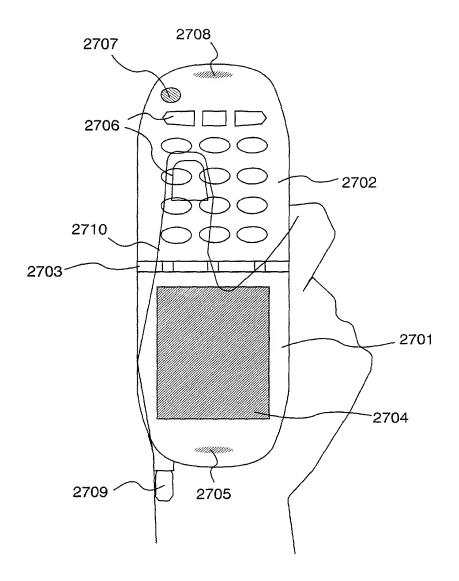


Fig. 33



source signal line driving circuit pixel portion 1513 gate signal line driving circuit 1512: LCD controller 1510: flash memory 1502: detector circuit 1501: pen touch tablet 1518: tablet interface 1509: DRAM 1507: video signal processing circuit 1503: memory circuit 1511: VRAM 1506: CPU power supply 1505: external interface port

Fig. 34 Prior Art

source signal line driver circuit gate signal line driver circuit 1613 1612: LCD controller 1610: flash memory 1618: key board interface 1601: key board 1609: DRAM 1607: video signal processing circuit 1603: memory card 1611: VRAM 1606: CPU 1615; transmission/ reception circuit 1602: audio processing circuit 1605: external interface port Fig. 35 Prior Art power supply 1608: microphone 1614: speaker

pixel portion

Fig. 36

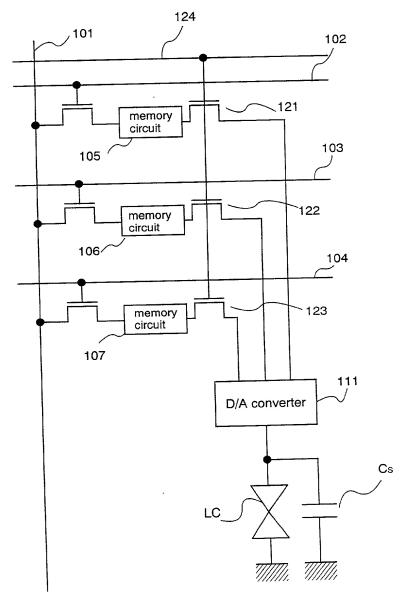


Fig. 37

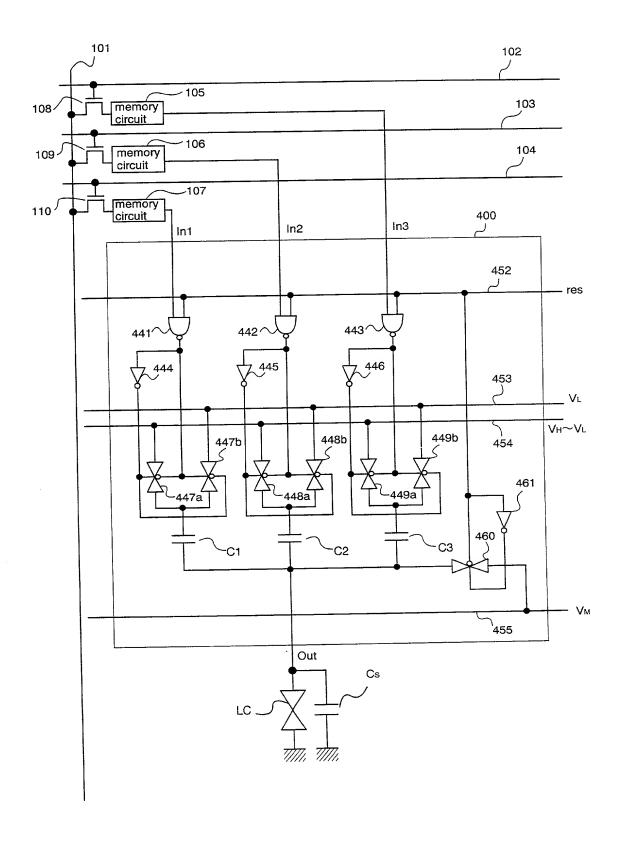


Fig. 38

